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Research shows high risk of breathing problems in dogs with short muzzles

Findings highlight that snuffling, grunting and snorting in popular breeds isn't normal or healthy

Researchers at the Royal Veterinary College (RVC) have recently demonstrated the health risks of breeding dogs with short muzzles. Although short muzzles are an increasingly popular face shape in pet dogs, flattened faces were found to greatly increase the risk of developing a debilitating, lifelong respiratory condition leaving dogs chronically short of breath. Breeds shown to be at high risk include the Pug, French Bulldog and English Bulldog, but findings are relevant to all dogs, including many other breeds and cross-breeds, with shortened muzzles.

Brachycephalic Obstructive Airway Syndrome (BOAS) is caused by shortening of the bones of the canine muzzle, without an equivalent reduction in the soft tissues held within them, causing the tissue to become 'crammed' within the skull. This tissue can block the airway, and is often accompanied by narrowed nostrils, making it difficult for air to pass through the dog's nose. These blockages can mean dogs struggle to breathe, leaving them unable to exercise, play or eat normally, and in some cases they overheat and collapse. BOAS can even cause early death. Dogs with BOAS often snore even while awake, when the soft tissue noisily vibrates as dogs force air past the blockages.

The research, which was co-funded by Dogs Trust, the UK's largest dog welfare charity, and the Universities Federation for Animal Welfare (UFAW), involved two studies including over 850 dogs of over 100 breeds. The findings were reported in a paper by Drs Rowena Packer, Anke Hendricks, Michael Tivers and Charlotte Burn and published in the journal PLOS ONE. The researchers found that as muzzle length becomes shorter, risk of BOAS becomes ever higher, with over 90% of dogs being affected at the shortest extreme. This quality-of-life limiting disorder was only seen in dogs whose muzzles were less than half the length of the domed part of the skull. Obesity and thicker necks also increased BOAS risk.

Puppy buyers should be aware of the health consequences of choosing dogs based on appearance. Practical steps to take when buying a dog of a high-risk breed include selecting puppies from parents with longer muzzles and slimmer necks, and ensuring their dog stays at a healthy body weight.

Flattened facial conformation has long been suspected by vets as risk factor for BOAS and this research showed for the first time that decreasing muzzle length does indeed increase BOAS risk. With this in mind, breeding organisations should actively discourage exaggeration of this high-risk skull shape in both breed standards and the show ring. This could include imposing limits to how short a dog's muzzle can be, in order to improve dog welfare.

Veterinary Director for the Dogs Trust, Paula Boyden, explains the importance of this research;

"The increased popularity of Pugs, French and English Bulldogs hasn't been coupled with an increased awareness about the health issues these breeds can suffer from. Too many people mistakenly believe that the grunting, snuffling and wheezing sounds these breeds often make are endearing breed traits, rather than warnings of a debilitating health condition. Dogs Trust urges owners to be vigilant for the signs their dog might be suffering with BOAS

and take their pet to the vet for advice if they have concerns. The condition cannot be cured but can be improved and there may be things that can be done to provide a better a quality of life for affected dogs.

Although the research demonstrates the need for UK breeders to be aware of the risks of breeding for shorter muzzles, there is an equally pressing need for buyers to be aware of BOAS. There has been a surge in the number of high risk breeds being bred and illegally imported from Eastern Europe in the last few years. Breeders prepared to smuggle these underage puppies into the UK are rarely concerned with good breeding practices so it is essential that buyers wanting a Pug, French Bulldog or English Bulldog puppy look beyond appealing appearances and listen for the audible signs of BOAS.”

Signs to look out for that your dog might be suffering from BOAS that should be discussed with your vet:
1. Frequent or lasting shortness of breath
2. Difficulties in exercising [walking, running and playing] as a result of this shortness of breath
3. A tendency to overheat
4. Respiratory noises such as snorting and snoring, even when awake
5. Laboured or exaggerated breathing
6. Narrow slit-like nostrils

If you do have a dog at risk of the condition make sure they maintain a healthy weight because obesity can worsen BOAS.

UFAW, an independent charity which promotes advances in animal welfare through scientific and educational activities, has an extensive web-based information resource on genetic welfare problems in dogs and other companion animals which can be viewed at www.ufaw.org.uk/geneticwelfareproblems.php

Ends

Notes to Editors

The live article “Impact of Facial Conformation on Canine Health: Brachycephalic Obstructive Airway Syndrome” is available at: <http://dx.plos.org/10.1371/journal.pone.0137496>

Dogs Trust provided a veterinary grant of £9,505 to support this research and facilitated the inclusion of rescue dogs for research observation at two rehoming centres.

The Universities Federation for Animal Welfare (UFAW) co-funded this research with a grant of £3,521. UFAW is an internationally recognised, independent scientific and educational animal welfare charity. It works to improve knowledge and understanding of animals needs in order to achieve high standards of welfare for farm, companion, research, captive wild animals and those with which we interact in the wild.

UFAW’s extensive web-based information resource on genetic welfare problems in dogs and other companion animals see www.ufaw.org.uk/geneticwelfareproblems.php

Dr Rowena Packer and Dogs Trust veterinary spokespeople are available for interview about this research

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